

## WHAT IS CLAIMED IS:

1. A burst transfer mechanism of network packets having MAC frames over USB bus is designed in an Application Specific Integrated Circuit (ASIC) installed in a USB compliant networking device, which enables the networking device to  
5 proceed with the steps of:

assembling a plurality of Ethernet network packets having MAC frames together as a super-size network packet;

transferring the super-size network packet into a plurality of USB packets having maximum packet size defined for the USB endpoint while receiving a Bulk  
10 In/Out request packet; and

transmitting the USB packets out within a burst cycle of Bulk In/Out transaction.

2. The mechanism of claim 1 wherein, when the networking device receives a Bulk I/O request packet, the networking device transmits the Bulk I/O request  
15 packet to a USB driver installed therein, enabling the USB driver to assemble a plurality of network packets having MAC frames together and append proprietary bytes to every network packet being received to delineate the end of each network packet and form a super-size network packet.

3. The mechanism of claim 2, wherein the proprietary bytes comprises the  
20 length and length bar (inversion of Length value) of the corresponding network packets, wherein the length refers to the total quantity of bytes counting from the beginning of the destination address field to the end of data field, and is used to represent the ending position of each MAC frame network packet being received and to delineate the boundary thereof.

25 4. The mechanism of claim 2 wherein, when the USB driver grants the

request of the Bulk I/O request packet after receiving the Bulk I/O request packet, the mechanism proceeds with the capsulation process with respect to the super-size network packet, transferring the super-size network packet into a plurality of USB packets having maximum packet size defined for the USB endpoint along with a short packet and then, within a burst cycle of Bulk In/Out transaction, transmitting the USB packets out.

5        5. The mechanism of claim 4 wherein, within the burst cycle of Bulk In/Out transaction, the maximum quantity of the network packets having MAC frames being comprised in a super-size network packet can be predefined in a Burst Credit  
10        in a way of bytes quantity.

6. The mechanism of claim 4 wherein, within a burst cycle of Bulk In/Out transaction, the maximum quantity of the network packets having MAC frames being comprised in a super-size network packet can be predefined in a Burst Credit according to the quantity of the network packets having MAC frames currently  
15        queuing in a buffer installed in the networking device.